

Antiplasmodial and antibacterial agent(s) from *Vernonia angulifolia* DC

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Because of its use in traditional medicine *Vernonia angulifolia* was investigated for antiplasmodial and antibacterial activity. The acetone leaf extract was tested against a chloroquine sensitive (CQS) strain of *Plasmodium falciparum* (D10) and *Staphylococcus aureus*. The Minimum Inhibitory Concentration (MIC) of the crude extract was 0.391 mg/ml, while the antiplasmodial activity gave an IC₅₀ of 3 µg/ml. Using activity guided fractionation, antibacterial and antiplasmodial compound(s) were isolated from the acetone leaf extract and subsequently identified.

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The phylogeography of the Sneeuberg, Great Karoo: Is it a centre of endemism?

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The Sneeuberg and ancillary ranges (*inter alia* the Koudeveldberge, Renosterberg, Tandjiesberg and Bankberg; hereafter referred to as the Sneeuberg) is situated in the Graaff-Reinet-Middelburg-Nieu Bethesda-Cradock region and forms part of the Great Escarpment in the Great Karoo, Eastern Cape, South Africa. The Sneeuberg comprises a system of massive dolerite intrusions that has resulted in a comparatively mesic, semi-continuous highland area of over 1900 m and is some 200 km long. The Sneeuberg includes the Compassberg (2504 m) and the Nardousberg (2429 m), the two highest peaks in the Great Karoo. The Sneeuberg is not well known floristically; is located in a convergence zone of five biomes; and is situated adjacent to the Albany Centre of Endemism. It is a dominant component in the putative Middelburg centre of diversity for the Asteraceae in South Africa, and together with the Winterberg-Amatole-Stormberg has been identified as a centre of endemism for the genus *Euryops* (Asteraceae). Numerous other endemics from several

families are known from the range. This presentation reports on the results of an ongoing floristic exploration of the Sneeuberg, and the results of phytogeographic analyses. The affinities of the Sneeuberg to other mountains and ranges in the Albany Centre of Endemism and other regions are discussed.

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Pollen as a reward for birds. The unique case of weaver bird pollination in *Strelitzia reginae*

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★ Awarded Van Staden Prize for best oral presentation by a MSc student

The pollination of the iconic *Strelitzia reginae* flowers has long been assumed — birds land on the fused blue petals which enclose the anthers. While standing on this structure and probing for nectar, the two petals are opened and the pollen dusted onto the feet or breast of the visiting bird. In most cases these deductive interpretations have assumed that the ubiquitous and glamorous Sunbirds are the primary pollinators of *S. reginae*. We confirm Skead's observations that *S. reginae* is in fact pollinated by Cape Weavers that not only utilize nectar as a reward, but also eat substantial amounts of the pollen compliment of each flower. In contrast, sunbirds were never observed to make contact with the reproductive parts of the flowers suggesting that these birds are nectar thieves. Using pollen staining techniques, we are able to estimate the fates of pollen and show that the majority of the pollen is lost from the system and presumed to be eaten by the pollinators. Much smaller fractions are deposited on self stigmas or exported to other stigmas. These observations shed light on the unique floral morphology of *Strelitzia reginae*.

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Grass competition induces N₂ fixation in some species of African *Acacia*

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Indigenous species of *Acacia* are very common in African savannas that have N-rich soils. This raises some doubt regarding the extent of plant dependence on N₂-fixation. Do *Acacia* spp. enjoy an advantage over other tree species on N-replete soils? We tested the hypothesis that competition by grass for nutrients would induce increased nodulation of *Acacia*